

an objective lens opposite to the surface of the object to be measured and for receiving a reflected light applied from said light source and reflected on the surface of the object to be measured;

light detection means for detecting a component incident on said objective lens from a parallel direction with an optical axis thereof in said reflected light received by said objective lens and obtaining a light quantity thereof;

a slit provided in an optical path between said objective lens and said light detection means, wherein a size of an opening of said slit is changeable from within a range of approximately 0.2 mm to approximately 30 mm; and

illumination switchover means provided in a light path between said light source and the object to be measured, wherein said illumination switchover means is structurally configured to switch over bright-field illumination, using a half-mirror portion, in which said light from said light source is made parallel with said optical axis of said objective lens and applied to the object to be measured through said objective lens, and dark-field illumination, in which said light from said light source is made ringlike and applied obliquely with respect to said optical axis of said objective lens such that there is a focus on the surface of the object to be measured.

5. (Twice Amended) A surface inspection method comprising the steps of:

irradiating a surface of an object to be measured with an irradiation light, said irradiation light being reflected from a light source onto the surface of the object to be measured to form a reflected light;

making a component of said reflected light parallel with an optical axis of an objective lens provided oppositely to the object to be measured, incident on a slit through said objective lens to form an incident light;

switching over an illumination switchover means provided in a light path between said light source and the object to be measured, wherein said illumination switchover means is structurally configured to be switched over between a bright-field illumination, using a half-mirror portion, in which said light from said light source is made parallel with said optical axis of said objective lens and applied to the object to be measured through said objective lens, and a dark-field illumination, in which said light from said light source is made ringlike and applied obliquely with respect to said optical axis of said objective lens such that there is a focus on the surface of the object to be measured;

receiving only a component of said incident light having passed through an opening of said slit to form a received light;

obtaining a light quantity of said received light; and

controlling a light detection extent in the surface of the object to be measured by changing a size of said opening of said slit to be within a range of approximately 0.2 mm to approximately 30 mm and by changing a magnification of said objective lens.

9. (Twice Amended) A surface inspection apparatus comprising:

a light source for applying a light to a surface of an object to be measured;

a tubular member opposite to the surface of the object to be measured and for receiving said light applied from said light source and reflected on the surface of the object to be measured to become a reflected light;

light detection means for detecting a component incident on said tubular member from a specified direction in said reflected light and obtaining a light quantity thereof;

a slit provided in an optical path between said tubular member and said light detection means, wherein a size of an opening of said slit is changeable from within a range of approximately 0.2 mm to approximately 30 mm; and

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illumination switchover means provided in a light path between said light source and the object to be measured, wherein said illumination switchover means is structurally configured to switch over bright-field illumination, using a half-mirror portion, in which said light from said light source is made parallel with said optical axis of said objective lens and applied to the object to be measured through said objective lens, and dark-field illumination, in which said light from said light source is made ringlike and applied obliquely with respect to said optical axis of said objective lens such that there is a focus on the surface of the object to be measured.

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11. (Twice Amended) A surface inspection method comprising the steps of:

irradiating a surface of an object to be measured with a light to form an irradiation light;

reflecting said irradiation light on the surface of the object to be measured to form a reflected light;

making only a component in almost one direction incident on a slit through a tubular member in the reflected light to form an incident light;

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switching over an illumination switchover means provided in a light path between said light source and the object to be measured, wherein said illumination switchover means is structurally configured to be switched over between a bright-field illumination, using a half-mirror portion, in which said light from said light source is made parallel with said optical axis of said objective lens and applied to the object to be measured through said objective lens, and a dark-field illumination, in which said light from said light source is made ringlike and applied obliquely with respect to said optical axis of said objective lens such that there is a focus on the surface of the object to be measured;

obtaining only a component of a light quantity through an opening of said slit in said incident light; and

controlling a light detection extent in the surface of the object to be measured by changing a size of said opening of said slit to be within a range of approximately 0.2 mm to approximately 30 mm and by changing a magnification of said objective lens.

12. (Twice Amended) A surface inspection method comprising the steps of:
irradiating a surface of an object to be measured with a light to form an irradiation light;

reflecting said irradiation light on the surface of the object to be measured to form a reflected light;

making said reflected light incident on a slit through an optical fiber cable to form an incident light;

switching over an illumination switchover means provided in a light path between said light source and the object to be measured, wherein said illumination switchover means is structurally configured to be switched over between a bright-field illumination, using a half-mirror portion, in which said light from said light source is made parallel with said optical axis of said objective lens and applied to the object to be measured through said objective lens, and a dark-field illumination, in which said light from said light source is made ringlike and applied obliquely with respect to said optical axis of said objective lens such that there is a focus on the surface of the object to be measured;

obtaining a light quantity of only a component having passed through an opening of said slit in said incident light; and